

POLYALCOHOL FILM AND LAMINATE

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Inventor(s): HARITA SHIGEYUKI
Applicant(s):: KURARAY CO LTD
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EC Classification:
Equivalents:

Abstract

PURPOSE: To provide gas barrier properties all over the whole of a humidity area of a film and a laminate by forming a thin layer composed of a metal and/or a metal oxide at least on one surface of a polyalcohol film manufactured by the reduction of polyketone composed of a carbon monoxide ethylene copolymer.

CONSTITUTION: A thin layer composed of a metal and/or a metal oxide is formed at least on one surface of a polyalcohol film manufactured by reducing polyketone composed of a carbon monoxide ethylene copolymer. It is particularly optimum that polyalcohol contains the repeating unit represented by the formula, preferably 97% or more. Also it is preferable to use the melt extrusion cast film manufacturing process using a T-die for manufacturing the polyalcohol film, and it is also preferable to carry out the heat treatment at the melting point of 70 deg.C-the melting point of 5 deg.C for three seconds and further biaxial orientation is carried out. As for a metal and/or a metal oxide forming the thin layer, aluminum, alumina, a silicon oxide or the like is used and the thin layer is formed by deposition.

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AN - 1996-481035 [48]
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MC - A04-A05 A04-G08 A09-A09 B04-C03B B11-C06
M1 - [01] H4 H405 H484 H8 M280 M316 M321 M332 M344 M383 M391 M423 M430 M510
M520 M530 M540 M620 M782 M903 M904 R043 R045 V743; 9648-08601-M
- [02] H7 H721 M210 M212 M320 M416 M423 M430 M610 M782 M903 M904 M910
Q140 R043 R045 V743; R00326-M R00326-Q; 0326-S 0326-U
M2 - [03] B114 B701 B720 B831 C108 C800 C802 C803 C804 C805 C807 M411 M430
M782 M903 M904 Q140 R043 R045; R08794-M
- [04] B114 B702 B720 B831 C108 C800 C802 C803 C804 C805 C807 M411 M430
M782 M903 M904 M910 Q140 R043 R045; R01694-M; 1694-U
PA - (KURS) KURARAY CO LTD
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PR - JP19950055682 19950315
XA - C1996-150391
XIC - B32B-009/00 ; B32B-015/08 ; C08G-067/02
XP - N1996-405664
AB - J08244158 A new polyalcohol film is obtd. by reducing polyketone which

is a copolymer of CO and ethylenic monomers. The new film has a metallic and/or metal oxide thin layer on at least one of its faces. A new laminate is also claimed, which is given by laminating a base material on the thin layer of the new film.

- USE/ADVANTAGE - As a gas barrier film for foods, medicines, pipes, industrial chemicals, fuel tanks, agriculture material, balloons, airships, antistatic films or electromagnetic wave shielding films. The new film and its laminate works well over entire humidity range.
- EXAMPLE - Polyalcohol obtd. by reducing a copolymer of CO and ethylenic monomers and contained 96% of the repeating units of $-(C(OH)H-CH_2-CH_2)-$ and 4% of the other repeating units was extruded into a 150 micron thick stretched film. The film was further stretched 3 times both in longitudinal and lateral directions at 110 deg.C for 5 sec. to obtain a 15 micron thick biaxial stretched polyvinylalcohol film. One of the film faces was treated with RF Ar gas plasma at 40 deg.C under a reduced pressure of 1×10^{-4} Torr. The face was further treated with a silicon oxide plasma generated by irradiating microwaves on a mixed gas contg. Ar, silane and O₂, so that a 200 Angstroms thick silicon oxide layer was deposited on the film. The Si/O atomic ratio of the layer was 1/1.8. 'Takelak A-52/Talenate A-50' (RTM; adhesive for dry laminates) was coated on the corona-discharge treated face of a 12 micron thick biaxial stretched polyethylene terephthalate film in an amt. of 3 g/m² (as solid content), the coating was heated at 70 deg.C to remove solvent. The coating was laminated on the silicon oxide layer of the polyalcohol film to obtain a laminated film. The adhesive was coated on the other side of the polyalcohol film in 3 g/m² (as solid content) and baked at 70 deg.C, a 60 micron thick film of low density polyethylene was laminated on the

adhesive coating.(Dwg.0/0)

CN - 9648-08601-M R00326-M R00326-Q R01694-M R08794-M

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IW - POLY ALCOHOL FILM LAMINATE GAS BARRIER FILM FOOD OBTAIN REDUCE
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NC - 001

OPD - 1995-03-15

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PAW - (KURS) KURARAY CO LTD

TI - Poly:alcohol films and laminates used as gas barrier film for e.g.
food - obtd. by reducing polyketone and has metallic and/or metal
oxide thin layer on at least one face

A01 - [001] 018 ; R01423 G2335 D00 F20 C- 4A O- 6A ; G0022-R D01 D51 D53 ;
H0011-R ; M9999 M2711-R ; L9999 L2391 ; L9999 L2711-R ; P1149-R
F23 D01 ; S9999 S1285-R ;

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A02 - [001] 018 ; P0884 P1978 P0839 H0293 F41 D01 D11 D10 D19 D18 D31 D50
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; N9999 N6860 N6655 ; K9610 K9483 ; K9574 K9483 ;

A04 - [001] 018 ; R00326 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D82 ;
H0000 ; P1172 P1161 ; S9999 S1285-R ; P1150 ;

- [002] 018 ; ND01 ; N9999 N7192 N7023 ; Q9999 Q7818-R ; Q9999 Q6780
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- [003] 018 ; B9999 B5243-R B4740 ; N9999 N5721-R ;